

PINAR BALCI, Ph.D.

Senior Environmental Scientist

EDUCATION

Ph.D., Ecology, University
of North Texas, Denton,
TX, 2002

M.S., Zoology, Hacettepe
University, Ankara,
Turkey, 1996

B.S., Biology, Hacettepe
University, Ankara,
Turkey, 1993

Dr. Balci specializes in watershed and wetland ecology and restoration, water quality and ecotoxicological assessment. She is familiar with the range of pertinent environmental regulations including NEPA, the Endangered Species Act, the Clean Water Act and associated environmental documentation requirements including EISs, EAs, and biological assessments (BAs). She has proficiency in GIS mapping and analyses, particularly ArcView and ARC/INFO; she has used statistical analyses including multivariate techniques such as Cluster Analyses, PCA and CCA and statistical packages including SAS, SYSTAT, CANOCO, S-PLUS in support of her projects, and has experience with evaluating model outputs from various alternatives for CERP-North Palm Beach PIR. As a project manager, she has held responsibility for client liaison, the preparation of project plans, multidisciplinary team management, work order development, cost and schedule control, problem resolution, report preparation, and QC for all technical activities and deliverables. She has provided peer reviews of manuscripts on behalf of professional journals including *Entomological News*, *Journal of Freshwater Ecology*, *Northeastern Naturalist* and *Wetlands*.

Exotic and Invasive Species Strategic Plan for Greater Everglades Ecosystem. Dr. Balci is the project collaborator for the exotic invasive species efforts in the Greater Everglades ecosystem of South Florida. This planning effort includes multiple stakeholders with the goal to establish a region-wide strategic plan for invasive exotic control, research and management and implement a pilot project in C-111 basin.

Everglades Tree Island Hydroperiod Paleoreconstruction. Dr. Balci is the South Florida Water Management District (SFWMD) Project Manager on the Tree Island Hydroperiod project. The project investigates the feasibility of reconstructing past hydroperiods of tree islands using invertebrate remains and stable isotopes signatures preserved in the sediment.

Everglades Decompartmentalization Project and Physical Model. Dr. Balci is a team member of a multi-agency effort to prepare the Project Management Plan and associated Project Implementation Report for this project. She provides technical expertise for the planning efforts and development of a Field Physical Model as a part of the Adaptive Management process for restoration of the Everglades.

Comprehensive Everglades Restoration Plan (CERP)- North Palm Beach, Florida. To support the CERP program of the South Florida Water

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Management District (SFWMD), Dr. Balci worked as a member of the Ecology and Environment (E&E) consulting team on the Part 1 project implementation report (PIR) for North Palm Beach County. Including an integrated EIS, the PIR is designed to meet the requirements of both NEPA and the six-step planning process of the United States Army Corps of Engineers (USACE). Dr. Balci provided technical expertise to support SFWMD's plan to create new reservoirs and wetland-based water treatment areas needed to restore the south Florida ecosystem; ensure continued provision of a safe, reliable water supply; and provide flood protection. Focusing on existing conditions and potential impacts on natural resources including wetlands, vegetation, fish and wildlife, exotics and threatened and endangered species, her duties included establishment of performance measures and evaluation criteria, benefit analyses, development of alternatives and conceptual designs, and preparation of final documentation for funding authorizations. Dr. Balci also supported SFWMD by coordinating the receipt of CERP program deliverables from E & E and nine CERP subcontractors, reviewing all documents and providing comments and suggestions.

Wetland Assessments, Southern Martin County/Northern Palm Beach County. Dr. Balci worked as the task manager for the assessment of wetlands over a 750 square mile area in Southern Martin County and Northern Palm Beach County including the Loxahatchee River floodplain and its tributaries. Dr. Balci conducted field assessments, established wetland functionality using the Wetland Rapid Assessment Procedure and developed a methodology to determine the improvement of wetlands given different hydrologic improvements.

South Miami-Dade Watershed Study, Miami, Florida. For the South Florida Regional Planning Council, Dr. Balci prepared the water quality assessment section of the comprehensive land use plan. The analyses included evaluation of 15 pollutant loadings and their potential impacts on Biscayne Bay and Biscayne Natural Park.

NAS Key West, Florida. In support of preparation of an integrated natural resource management plan and EIS for the Southern Division of the Naval Facilities Engineering Command, Dr. Balci completed an Essential Fish Habitat Assessment report that addressed the impacts of mangrove removal on managed fish and invertebrate species in Boca Chica Airfield.

Apalachicola-Chattahoochee-Flint River Basin Litigation Support.

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Dr. Balci worked as a member of a core team working on behalf of the State of Florida in support of pending U.S. Supreme Court litigation regarding water rights issues between Florida, Georgia, and Alabama. She was in charge for the database management of the case related documents and coordination of litigation support teams.

Avon Park Air Force Range, Highlands, Florida. For the Navy's Southwest Division, she prepared the biological resource management portion of the EIS addressing use of the Avon Park facility for live-fire training. She evaluated potential impacts of proposed naval training activities on natural communities, protected species, and range management practices.

Little River Watershed Ecological Integrity Assessment, Kentucky. With the Center for Reservoir Research (CRR) at Murray State University, Dr. Balci managed an environmental assessment project for the Little River watershed for EPA Region 4 and the Kentucky Division of Water. She conducted habitat assessments and led field crews in the sampling of aquatic macroinvertebrates, fish, algae, and water. She worked with the aquatic community data sets and associated physical chemical/riparian habitat and watershed characteristics and applied this expertise to interpret the condition of macroinvertebrate assemblages. Tools used included multivariate associational analyses (i.e. *Cluster analysis*, *Principal Components Analysis*, *Canonical Correlation Analysis*) and multimetric biotic integrity indices. Currently, she provides support to the CRR team on the data analyses and report preparation of water quality analyses portion of the project.

Herbicide Transport and Best Management Practices in Spa Lake Watershed, Western Kentucky. Dr. Balci also was CRR's co-investigator for an assessment of the ecological impacts of atrazine and effectiveness of best management practices (BMPs) in reducing nonpoint-source pollution in a drinking-water reservoir. The projects (total budget: \$552,000), conducted for USDA and EPA, involved research concerning the physical, chemical and land use processes influencing transport, fate and distribution of atrazine in an agricultural karst watershed and application of best management practices. Dr. Balci's responsibilities included field data collection, atrazine analyses using gas chromatograph/mass spectrometer instrumentation, presentation of stakeholder meetings and field trips, effectiveness analyses of BMPs, regulatory agency liaison, and preparation of project reports and budgets.

Limnological Studies, Kentucky Lake, Kentucky. With CRR, she collected and analyzed biological (zooplankton and phytoplankton) and water

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quality data for USACE monitoring project in Kentucky Lake. Also, conducted a study on the role of Chironomids in nutrient cycling of the Kentucky Lake and calculated secondary productivity of *C. major*.

Aquatic Plant Restoration Projects, Texas. As a contract aquatic ecologist with the USACE Lewisville Aquatic Ecosystem Research Facility, Dr. Balci designed and implemented experiments in mesocosms on the use of native aquatic plants for littoral zone restoration and the management of exotic plant species. She also designed and implemented a study to compare the effects of native and non-native aquatic macrophytes on macroinvertebrate community structure, secondary productivity and water quality parameters.

Aquatic Biology Laboratory, Denton, Texas. As laboratory coordinator/graduate teaching assistant with the University of North Texas at Denton, she managed the aquatic laboratory budget; coordinated laboratory activities; prepared laboratory lectures and student training sessions; demonstrated analytical techniques; and wrote and administered exams in general biology, aquatic entomology and environmental science. She also coordinated the 1999 North American Association for Environmental Education Conference sponsored by EPA Region 6.

As a laboratory technician with the University of North Texas Denton Water Research Field Station, she applied EPA Good Laboratory Practice standards to collect and identify macroinvertebrates and conduct research on the potential ecological and biological effects of pesticides on aquatic communities in microcosms. Clients used the study results for to support applications for EPA registration.

International

Nam Sang Wai Wetlands, Hong Kong. Dr. Balci provided technical expertise for the tasks related to the preparation of the Environmental Impact Statement for Nam Sang Wai project. She assisted in the preparation of scope of works for the quantification of impacts of the proposed development site on Nam Site Wai wetlands, stakeholder coordination and meetings, and other project associated tasks. Also, prepared a presentation to address comments received from the government agencies and green groups (WWF) regarding the Ecology component of the Environmental Impact Assessment Report. Nam Sang Wai wetlands include managed and unmanaged fish ponds and are located south of the Mao Poi Nature Preserve and the Deep Bay Estuary marshlands, internationally known RAMSAR sites.

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Wo Shang Wai Wetlands, Hong Kong. Dr. Balci, in collaboration with local expertise, developed a scoring matrix for wetland impact quantification analyses and associated mitigation for the proposed Wo Shang Wai development project. Wo Shang Wai is located upstream of the sensitive receiving water bodies including Mao Poi Nature Preserve and the Deep Bay Estuary marshlands, internationally known RAMSAR sites.

Hacettepe University, Ankara, Turkey. During two years as the university's laboratory coordinator, she coordinated laboratory activities, ordered supplies, and supervised instructors. She also prepared laboratory lectures, supervised student exercises, and graded exams in general zoology, entomology, freshwater fish biology, and ecology.

Scientific and Technical Research Council of Turkey, Ankara, Turkey. As an environmental scientist, she conducted biomonitoring and bioassessment studies in freshwater ecosystems. Her responsibilities included research planning, material acquisition, data collection, statistical analysis, and technical report writing.

Instructor

At University of North Texas, Dr. Balci taught a general biology course for majors and nonmajors. She supported lecture-oriented demonstration laboratory courses in environmental science and aquatic entomology. At Murray State University, she taught graduate-level limnology and aquatic ecology courses.

Additional Training

OSHA 40-hr HAZWOPER 2004

Project Management Training 2004

Red Cross CPR/1st aid 2003

Change Management and Conflict Management Training 2006

Budget for Project Managers 2006

Enhancing Leadership Effectiveness, 2006

Professional Project Manager Certification Training, on-going

EMPLOYMENT

South Florida Water Management District, West Palm Beach, FL, Senior Environmental Scientist, 12/05- present

Ecology and Environment, Inc., West Palm Beach, FL, Senior Ecologist, 09/03- 12/05

Center for Reservoir Research, Murray State University, Murray, Kentucky, Postdoctoral Research Scientist, 07/02-09/03

University of North Texas, Denton, Texas, Laboratory Coordinator/Graduate

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Teaching Assistant, 08/97-05/02; Water Research Field Station, Laboratory Technician, 01/97-05/97

United States Army Corps of Engineers Lewisville Aquatic Ecosystem Research Facility, Lewisville, Texas, Aquatic Ecologist, 08/00-06/01

Hacettepe University, Ankara, Turkey, Laboratory Coordinator/Graduate Teaching Assistant, 09/94-09/96

Scientific and Technical Research Council of Turkey, Ankara, Turkey, Environmental Scientist, 07/93-08/94

AWARDS

Certificate of Merit for Outstanding Research Presentation, Southwestern & Rocky Mountain Division American Association for the Advancement of Science (03/01).

Travel Scholarship, University of North Texas (05/2000; 05/2002)

Certificate of Honor for Organization of International Seminar on Volunteer Projects, GSM- Youth Services Center (09/94)

Fellowship, Scientific and Technical Research Council of Turkey, Funds for Supporting Scientists (09/94-09/96)

GRANTS

- Physical and Chemical Processes Influencing Transport, Fate and Distribution of Atrazine in a Karst Watershed. (U.S Department of Agriculture, PIs: B. Loganathan, P. Balci, R. Taylor, Grant amount: \$300,000)
- Historical Trends of Selected Organic and Organometallic Pollutants in Kentucky Lake and Spa Lake Using Sediment Cores (Kentucky NSF EPSCoR, PIs: B. Loganathan, P. Balci, Grant amount: \$25,000)
- Application and Assessment of Herbicide Best Management Practices (BMPs) in an Agricultural Karst Watershed in Western Kentucky (U.S. Environmental Protection Agency, PIs: R. Taylor, P. Balci, B. Loganathan, C. Macalister, Requested amount: \$251,826)

PROFESSIONAL AFFILIATIONS

North American Benthological Society
Society of Environmental Toxicology and Chemistry
American Water Resources Association
Society of Wetland Scientists
Southwestern Association of Naturalists
Texas Aquatic Plant Management Society

PUBLICATIONS

Pinar Balci, Ph.D. (Cont.)

Balci P, DS White, JH Kennedy. 200X. *Chironomus majorus*, A New Species of Midge (Diptera: Chironomidae) from Kentucky Lake. *Aquatic Insects* (in review)

Balci P, B Gunsalus, and D Roberts. 200X. Ecological Benefit and Impact Analyses of Alternative Plans for the North Palm Beach Comprehensive Everglades Restoration Project: A Procedural Approach for Restoration Planning. Submitted to *Environmental Modeling and Assessment* (in review).

Balci P, DS White, G Rice. 2005. Production and Life Cycle of *Chironomus Major* (Diptera: Chironomidae) in Kentucky Lake, Southwestern Kentucky and Northwestern Tennessee. *Entomological News*, 116: 353-362.

Balci P, J Bolleter. 2005. Salinity Issues Associated with the Everglades Restoration: Northwest Fork of the Loxahatchee River. *Proceedings of the Remediation of Oil Brine Spill Sites Symposium*, Louisiana State University Publication, pp 45-60

Balci P, B Gunsalus. 2004. Measurement of Success in Watershed Wetland Restoration: A Case Study of the Loxahatchee Watershed in *Proceedings of the 31st Annual Conference on Ecosystem Restoration and Creation*, P.J. Cannizaro (Ed.), Hillsborough Community College, Tampa, FL, pp. 65-74.

La Point TW, JH Kennedy, JK Stanley, **P Balci**. 2003. Aquatic Ecosystems for Ecotoxicological Research: Considerations in Design Analysis for Fish in *Toxicology of Fishes*, Di Giulio, RT and Hinton DE (Eds.), pp. 97-134.

Kennedy JH, TW La Point, **P Balci**, JK Stanley. 2003. Aquatic Ecosystem Assessment: Principles, Practices and Analysis in *Handbook of Ecotoxicology*, Hoffman, DJ., Rattner, BA., Burton, GA., Jr., Cairns, J., Jr. (Eds.), 2nd ed., CRC Press, Inc., Boca Raton, FL, pp. 45-75.

Balci P, JH Kennedy. 2003. Comparison of Chironomids and Other Macroinvertebrates Associated with *Myriophyllum spicatum* and *Heteranthera dubia*. *Journal of Freshwater Ecology*. 18:235-247.

Balci P, JH Kennedy. 2003. Ecology of Epiphytic Chironomids Living on Eurasian Milfoil (*Myriophyllum spicatum* L.) in Experimental Ponds. *Memorias do Instituto Oswaldo Cruz*. 12: 23-30.

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Balci P, JH Kennedy. 2003. Measures of plant surface-areas for Eurasian watermilfoil and waterstargrass. *Journal of Aquatic Plant Management*. 41:119-122.

Balci P, DS White. 2003. Quality Assurance Project Plan for Biological Baseline Conditions in the Little River Watershed.

Balci, P. 2002. Ecology of Macroinvertebrates Associated with Native and Exotic Macrophytes in Constructed Reservoir Wetlands. *Ph.D. Dissertation*, University of North Texas.

Balci P, JH Kennedy. 2002. Secondary Production of *Apedilum elachistus* Townes (Diptera: Chironomidae) in Experimental Ponds. *Wetlands*. 4:669-676.

Balci P, JH Kennedy. 2002. Egg to Adult Development Times of Five Species of Chironomids. *Entomological News*. 113:21-24.

La Point TW, **P Balci**, A Hippe, J White. 2001. Toxicity and Bioassessment Test Methods for Ecological Risk Assessment. Part V: Bioassessment Methods for Aquatic Vertebrates and Invertebrates. U.S. Environmental Protection Agency, Sacramento, CA. Technical report, 35 pp.

Balci P. 1996. Production Ecology and Growth Characteristics of *Capoeta tinca* (Heckel, 1843) in two headwater streams of Kizilirmak River, Turkey. *Master thesis*. Hacettepe University.

CONTRIBUTED SCIENTIFIC PRESENTATIONS (PUBLISHED ABSTRACTS)

Gunsalus B, **P Balci**. 2006. Evaluation of Hydrologic/Spatial Connectivity for Alternatives of the North Palm Beach County Part I Project. Third Loxahatchee River Watershed Symposium, Jupiter, FL, April 2006.

Painter P, D Fousek, **P Balci** and B Gunsalus. 2006. Evaluation of Grassy Waters Preserve/Water Catchment Area Stage Targets Proposed for the North Palm Beach County- Part I Project. Third Loxahatchee River Watershed Symposium, Jupiter, FL, April 2006.

Balci P, B Gunsalus and M Voich. 2005. Development of Performance Measures and Targets in Everglades Restoration: Loxahatchee River

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Watershed. American Water Resources Association Meeting, Seattle, WA, November 2005.

Balci P, B Gunsalus. 2005. Ecological Benefit/Impact Analyses of Planned Alternatives for the North Palm Beach Comprehensive Everglades Restoration Project: Loxahatchee Watershed. Society of Wetland Scientists 26th Annual International Wetlands Meeting, Charleston, SC, June 2005.

Balci P, J Bolleter. 2005. Salinity Issues Associated with the Everglades Restoration: Northwest Fork of the Loxahatchee River. Paper presented at Remediation of Oil Brine Spill Sites Symposium, Baton Rouge, LA.

Balci P, B Gunsalus, D Roberts. 2004. Ecological Benefit and Impact Analyses of Alternative Plans for the North Palm Beach Comprehensive Everglades Restoration Project: A Procedural Approach for Restoration Planning. First National Conference on Ecosystem Restoration, Orlando, FL, December 2004.

Balci P, B Gunsalus. 2004. Measurement of Success in Watershed Wetland Restoration: A Case Study of the Loxahatchee Watershed. Annual Conference on Ecosystem Restoration and Creation, Tampa, FL, October 2004.

Balci P, B Gunsalus. 2004. Development of Performance Measures for Watershed Wetland Restoration: Loxahatchee Watershed. 7th Annual Wetland and Watersheds Workshop, Atlantic City, NJ, October 2004.

Balci P, DS White. 2003. Role of Chironomids in Nutrient Cycling of the Kentucky Lake. XV International Entomology Symposium, Minneapolis, MN, August 2003.

Balci P, DS White. 2003. Ecology and Production of *C. major* Wulker and Butler in Kentucky Lake. 51th Annual Meeting of North American Benthological Society, Athens, GA, May 2003.

Balci P, DS White, T. Timmons, S. Hendricks. 2002. Biological Baseline Conditions in the Little River Watershed. Non-Point Source Conference, Kentucky Division of Water, Louisville, KY.

Balci P, JH Kennedy. 2002. Ecology of Chironomids Associated with Exotic and Native Aquatic Macrophytes. 50th Annual Meeting of North American Benthological Society, Pittsburgh, PA, May 2002.

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Balci P, JH Kennedy. 2001. Production Characteristics of *Apedilum elachistum* Living on Eurasian milfoil. Annual Meeting of Southwestern Association of Naturalists, Denton, TX, March 2001.

Balci P, JH Kennedy. 2000. Ecology of Epiphytic Chironomids Living on Eurasian Milfoil (*Myriophyllum spicatum* L.) in Experimental Ponds. Great Plains Limnology Conference, University of Kansas, Lawrence, KS, November 2000.

Balci P, JH Kennedy. 2000. A Comparison of the Chironomid and Other Epiphytic Communities in Beds of Differing Submersed Macrophytes in Experimental Ponds. Annual Meeting of Texas Aquatic Plant Management Society, Denton, TX, September 2000.

Balci P, JH Kennedy. 2000. Ecology of Epiphytic Chironomids Living on Eurasian Milfoil (*Myriophyllum spicatum* L.) in experimental ponds. 14th International Entomology Symposium, Rio De Janeiro, Brazil, August 2000.

Balci P, JH Kennedy. 2000. Effects of Aquatic Macrophytes on Macroinvertebrate Communities. Poster presented at the 48th Annual Meeting of North American Benthological Society, Keystone, Colorado, May 2000.

Balci P. 1996. Growth and Production Characteristics of *Capoeta tinca* (Heckel, 1843) in Acicay and Terme Streams of Kizilirmak River. 8th National Biology Congress, Istanbul, Turkey, September 1996.

REFERENCES

Dr. James Kennedy, Professor, University of North Texas, Department of Biological Sciences, Institute of Applied Sciences, Denton, TX: 940/565-2981, e-mail: kennedy@unt.edu

Boyd Gunsalus, Senior Environmental Scientist, South Florida Water Management District, Stuart, FL: 800/250-4100 Ext. 3606; e-mail: bgunsalu@sfwmd.gov

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Dr. David White, Director, Center for Reservoir Research, Murray State University, Murray, KY 42071: 270/474-2272, e-mail: david.white@murraystate.edu

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